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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,627	10/17/2003	Hiroshi Katoh	040356-0492	8894
22428	7590	02/07/2005	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			HOANG, JOHNNY H	
			ART UNIT	PAPER NUMBER
			3747	

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/686,627

Applicant(s)

KATOH ET AL.

Examiner

Johnny H. Hoang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 6-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Mamiya et al (US 6,401,703 B1).

Regarding claim 1, the reference of Mamiya et al discloses the method and system for controlling fuel injection for direct injection-spark ignition engine which including the following subject matters:

an engine rotation speed sensor detecting an engine rotation speed (col. 9, lines 22-29; and col. 10, lines 12-35); and

a programmable controller (electric control unit 40) programmed to:

calculate a basic injection amount of fuel (col. 10, line 44 through col. 11, line 6);

calculate a target fuel injection amount by correcting the basic fuel amount in response to the trend in variation of the engine rotation speed (col. 13, lines 1-49); and

control a fuel injection amount of the fuel injector to the target fuel injection amount (above rejections).

Regarding claims 5, 15, and 16, as discussed in claim 1.

Regarding claims 17-18, as discussed in the fuel injection device of claim 1.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mamiya et al in view of Yoshioka et al (US 6,116,227).

Regarding claims 2, the reference of Mamiya et al discloses the claimed invention except for the controller is programmed to determine whether or not the engine is in a startup state, and when the engine is not in a startup state.

However, the reference of Yoshioka et al discloses the controller is further programmed to determine whether or not the engine is in a startup state, and when the engine is not in a startup state (col. 9, line 31 through col. 10, line 7).

Therefore, it would have been an obvious to one of ordinary skill in the art at the time the invention was made to have modified the system which including the controller as taught by Yoshioka et al into the system Mamiya et al, in order to provide the controller for controlling the startup state of the engine, since more information is combined and can be processed more precisely at a higher technology facility.

Regarding claim 3, the reference of Mamiya et al discloses the claimed invention except for a starter switch for cranking the engine, and the controller is further programmed to determine that the engine is in the startup state when the starter switch is ON.

However, the reference of Yoshioka et al discloses the engine is an engine for driving a vehicle which comprises a starter switch for cranking the engine, and the controller is further

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programmed to determine that the engine is in the startup state when the starter switch is ON (Fig. 14 and col. 18, lines 22-57).

Therefore, it would have been an obvious to one of ordinary skill in the art at the time the invention was made to further modify the method of Mamiya et al with the starter switch for cranking the engine, and the controller is programmed to determine that the engine is in the startup state when the starter switch is ON, as taught by Yoshioka et al, in order to perform a steady state while the starter switch is from off to on.

Regarding claim 4, as above rejections.

#### ***Allowable Subject Matter***

5. Claims 6-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnny H. Hoang whose telephone number is (571) 272-4843.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on (571) 272-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHH  
February 1, 2005

Johnny H. Hoang  
Examiner  
Art Unit 3747

*Tony M. Argenbright*  
**Tony M. Argenbright**  
Primary Examiner  
Art Unit 3747